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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/557,630	11/17/2005	David Keith Roberts	NL030536	4449
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			MAIL DATE 01/09/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/557,630	Applicant(s) ROBERTS, DAVID KEITH	
	Examiner Nancy Bitar	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/30/07, 11/17/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities: grammatical error in spelling the word "centred". Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

2. Claim 14 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 14 defines a "computing

program product "embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the presently claimed "a computer program product" can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-readable medium encoded with a computer program" or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 teaches a method of applying/detecting it is unclear whether the method detects the digital fingerprint or applies the digital fingerprint. Claim 8 also teaches a method for embedding/detecting a digital watermark

which also makes it indefinite to point out the invention. The use of alternatives makes it difficult to understand the exact scope of the claims. Claims (3-7, 13-14), and claims 9-11 depends on claim 1 and claim 8 respectively are thus indefinite.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2,8,13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Iona et al (EP 11043687)

As to claim 1, Iona et al teaches the method of applying/detecting a digital fingerprint to/in an image comprises: dividing the image into regions (partitioning of a digital image, paragraph [0001]) , the location and/or size of the regions being based on a content of the image (effecting the spatial division of the region R into subregions R_j of sizes P_j with j=1,.....k , paragraph [0213]) ; and applying/detecting the digital fingerprint (inserting a watermark, paragraph [0001], note that the portioning of a digital image is adapted to the image, paragraph[0017]) .

As to claim 2, Iona et al teaches the method of dividing an image into regions for the application of a digital fingerprint comprises selecting the location and/or size of the regions according to a content of the image (paragraph [0213]).

As to claim 8, loana et al teaches the method of embedding/detecting a digital watermark into/in an image comprises selecting a size and/or location for a watermark pattern based on a content of the image (paragraph [0221]-[0228]), and embedding/detecting the watermark (inserting a watermark, paragraph [0001]).

Claims 13 differ from claim 1 only in that claim 1 is a method claim whereas; claim 13 is an apparatus claim. Thus, claim 13 is analyzed as previously discussed with respect to claim 1 above.

Claims 14 differ from claim 1 only in that claim 1 is a method claim whereas; claim 14 is a computer program. Thus, claim 14 is analyzed as previously discussed with respect to claim 1 above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3-7,9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iona et al (EP 11043687) in view of Tewfik et al (Geometric Distortion correction through image normalization, IEEE 2000)

While Iona et al. meets a number of the limitations of the claimed invention, as pointed out more fully above, Iona fail to specifically teach the image is divided based

on the location of a centroid of the image. Specifically, Tewfik et al. teaches the embedding the watermark in a well defined region and normalizing the parameters which are computed from the geometric moments of the image where equation 3 are the centroid of the image, see section 2, Image normalization. it would have been obvious to one of ordinary skill in the art to use Tewfiks' geometric moments as the centroid of the image in Ioana in Ioana portioning method (figure 2) in order makes them image dependent which is turn makes the decoder able to estimate them without the need of original image, see section I, Introduction). Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

As to claim 4, Tewfik et al teaches the method as claimed in claim 3, in which a grid for dividing the image is centered substantially at a location of the centroid of the image(section 2, note that figure 1 teaches image processing with respect to the centroid).

As to claim 5 Ioana et al teaches the method as claimed in claim 4, in which horizontal and vertical sizes of divisions of the grid are independent of one another (R_j of sizes P_j , paragraph [0213]).

As to claim 6, Ioana et al teaches the method as claimed in claim 5, in which the size of horizontal and/or vertical divisions is based on a content of portions of the image (paragraph [0221-0228]).

As to claim 7, Tewfik et al teaches the method as claimed in claim 6, in which the size of horizontal and/or vertical divisions is based on centroids of portions of the image (figure 1, for instance in section 2.1; Tewfik et al teaches It should be noted that the sign will always change with flipping in the z direction unless the image is symmetric around the y axis)

As to claim 9, Tewfik et al teaches the method as claimed in claim 8, in which a location of the watermark is chosen according to a location of a centroid of the image (the watermark itself is embedded several times at different horizontally and vertically shifted locations and used to estimate the distortion, see section 1.Introduction and section 2).

As to claims 10-11, Ioana et al teaches the watermark is present as a grid element, and a size of the watermark or a size of grid for the watermark is chosen according to a content of portions of the image (paragraph [0021-0228]).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nancy Bitar whose telephone number is 571-270-1041. The examiner can normally be reached on Mon-Fri (7:30a.m. to 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

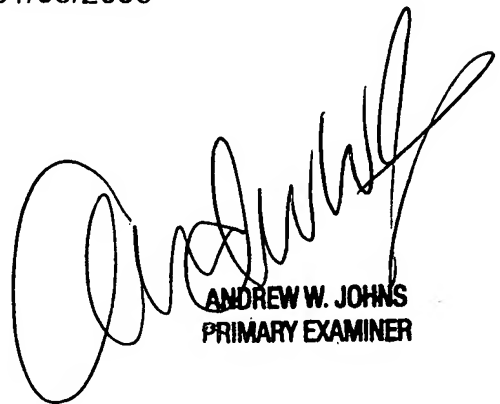
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Nancy Bitar

01/05/2008



ANDREW W. JOHNS
PRIMARY EXAMINER